

Survey of Department of Cauca
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Colombia Alternative Development Project



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Colombia Alternative Development Project

Survey of Department of Cauca

I. Executive Summary

The goal of this project is to develop and recommend economically successful and sustainable projects for the Department of Cauca, that will be directly tied to the eradication of illicit crops.

The first phase of the project involved the selection of the appropriate areas within the Department to be selected for the projects. The following were selected:

- a. Zona Patia – located in the southwestern part of Cauca, this area, heavily influenced by its large population of AfroColombianos, has over half of the illicit crops in the Department, and has a number of community organizations that are strongly committed to the eradication of the drugs.
- b. Zona Oriental – the area found in the northeastern portion of Cauca is comprised mostly of the Resguardos of the indigenous groups, has over half of the poppies found in Cauca, and again has local organizations that have a strong desire to remove the illicit crops from their lands.
- c. Zona Maciso Colombiano – The high areas found in the central backbone of the Department has over one fourth of the poppies and nearly one fifth of the affected families in Cauca. However, due to the high level of guerrilla activity and very poor infrastructure, this area, while deserving a high priority, will be challenging to develop.

The projects that will be recommended are the following:

- a. FUNDEBAP project in Patia, that will present a broad package of food and other crops, and will mean the eradication of 1,000 hectares of coca, and the benefitting of more than 3,000 families.
- b. Comite de Cafeteros project, to be established in all three of the above zones, which will be a broad package of coffee, food and other crops, will mean the eradication of 5,000 hectares of illicit products, and the benefitting of 7,000 families.
- c. University of Cauca project, to take place in three Municipios of the Zona Oriental, which will be a broad package of food and other crops, will involve the eradication of 1,000 hectares of poppies, and will benefit 1,500 families.

- d. CORSEDA project, the expansion of the silk industry, will involve the eradication of 50 hectares of illicit crops the first year, with a significant expansion expected to follow.

The total number of hectares intended for eradication is 7,050, with nearly 12,000 families to be benefited.

II. Characteristics of Cauca

The Colombian Department of Cauca lies in the very south of the country, bordering on the Pacific Ocean, the country of Ecuador, and the other Departments of Nariño, Putumayo, Huila, Tolima, and Valle de Cauca. The Department has over 30,000 Sq. Kms. Of land, divided into 41 different Municipios, and has a population of nearly 1,300,000, out of a total estimated current population of 40,300,000 in Colombia.

Cauca has a great diversity of geography, ranging from very tropical lowlands at sea level to Andean highlands of more than 3,000 Meters. There is also a great diversity of people, as nearly 34% of the population are AfroColombianos, and an additional 14.2% are indigenous peoples.

Cauca, in spite of having some potentially productive areas, is not a prosperous area, and the GDP of the Department represents only 1.41% of the entire country (as compared to 3.2% of the population), which can be contrasted to a comparable figure of 11.8% in neighboring Valle de Cauca, 14.7% in Antioquia, and 23.6% for Santa Fe de Bogota. Agriculture represents nearly 22% of the measureable commerce of the Department. But with such a large percentage of the population involved in subsistence agriculture (44.5 % of the labor force is involved in agriculture, and only 5.6% in manufacturing), the government statistics indicate a virtual absence of manufacturing, and 23% of the economy being derived from Government Services, and another 31% coming from Other Services.

Though not as large a producer of illicit products as other Departments, such as Putumayo or Santander del Norte , the Department of Cauca has 7,500 Has. combined of coca and poppies, according to the government surveys, and with the reality probably being double or triple that quantity. The goal of this survey is to analyze the Department of Cauca, and recommend economic projects appropriate to the realities of geography, infrastructure, climate, and organizational capabilities of the various communities, with the intent of eradicating the maximum number of hectares of illicit products through the installation of short term and long term economically sustainable projects.

Regional Characteristics

A. Zona Norte Caucana (Exhibit 2.)

The Zona Norte Caucana is at the northernmost part of the Department, and the lower, flatter part of the Zona is very similar to the land directly to the north, or the Valle de Cauca. This is sugar land, averaging 1,000 meters in height, very warm, and has the largest amount of Agro-Industrias in the Department. The roads and infrastructure are generally good in the lower part. This zone also contains a higher part to it, the Municipios of Morales, Buenos Aires, and Suarez, where the infrastructure is poor. The entire area represents nearly 8.0% of the land of the Department, and approximately 22.5% of the population.

This is the only area where the Industrial Parks are found. These were based on a 1993 law, which gave five year exemptions from certain taxes, and therefore stimulated development in these areas. The roads are quite good here, and a major market, Cali, is only approximately 30 Kms. away. There are many kinds of industries in the Parks, but large paper plants represent some of the biggest.

There are large dams in the mountains here, which provide a good water source for fish cultivation.

Due to the relative prosperity of this area, there are very low levels of illicit crops cultivated here. But the prosperity level is a relatively better only when compared to some of the other areas in Cauca, as the NBI Index (the national government index that measures basic needs, such as housing, education, health, etc., that are not satisfied) is 40.8% above the Departmental average, and 127.5% above the national average.

B. Zona Oriental (Exhibit 3)

This zone is found in the north-eastern corner of the department, and has 20.8% of the land, and 19.4% of the population of the Department. This area is very high, averaging over 2,000 meters, and has cool temperatures.

The population is mostly indigenous peoples, with by far the greatest number of the 95 recognized resguardos. (A resguardo is an area composed of a group recognized by the Colombian government, with its own laws and territory. Please see Exhibit 4) There is a significant advantage to this sort of cultural makeup, as the resguardos are very well organized, and projects have a much higher chance of succeeding if approved by the local leadership.

The infrastructure is not good in this area, and most of the farming is at a subsistence level. Agriculture and cattle are widely found, but cultivated on a self-consumption basis. This zone has a wide diversity of income levels, with some of the Municipios having an NBI index lower than the Departmental and national averages (such as Silvia and Corinto), while others, such as Toribio and Purace, have index levels ranging from 75.9 to 93.1%. For the zone as a whole, the NBI is 25.5% above the Departmental level, and 82.8% above the national level.

Because of the altitude and the relative isolation of many areas here, this area contains nearly half of the poppies found in the entire department.

C. Zona Choco` (Costera) (Exhibit 5)

This is the area found on the Pacific coast, and is notable for having the largest land mass of any of the seven zones, but the second lowest population. These are very hostile areas, characterized by a non-existent infrastructure, with transportation confined to travel by boats, only one small airport (Guapi`) found in the entire area. The zone has very high rainfall and poor soils, and virtually no state presence. This is ostensibly the area where a great deal of the drugs leave, and arms and money enter the country.

Due to the poor soils and difficult conditions, the NBI level in this area is 56.1% above the Cauca level in general, and 127.5% worse than the national level.

As such, though the government survey indicates that no illicit plantings can be found in these three Municipios, private conversations in the area indicate that the regions is planted with very large amounts of coca, but there is no state presence that will permit a survey.

Given the deep hostility of the area, it cannot be considered a likely prospect for investment, eradication, and development at this time.

D. Zona Meseta de Popayan (Exhibit 6)

The Meseta de Popayan represents the highlands found in the center of the Department, averaging around 1,700 meters, and with an average temperature of 19 degrees C. This area has the highest population of all of the regions with over 25% of the total, and yet with just over 5% of the land area. It is dominated by the Department capital, Popayan, which in itself has over 200,000 people. The Pan-American highway runs through this area, and the entire area is generally characterized by good infrastructure, some manufacturing (which is generally non-existent in the rest of the Department, other than in the Industrial Parks), and reasonably efficient agriculture.

This area is distinctly the most prosperous area of the Department, with an NBI index 37.8% below the Departmental average, and actually 8.0% below the national average.

As such, this area has no illicit crops found in the government surveys. There is a sufficient guerrilla presence to make travel difficult at times. But the plantings of coca and poppies are confined to the other areas.

E. Zona Patia (Exhibit 7)

Due to our inclusion of the largest Municipio, El Tambo, in the region, it contains over 17% of the total land area in the Department, and over 12% of the population. This is because the southern part of El Tambo is much more similar to the Patia Municipios that it borders, such as Patia, Argelia, and Balboa, than the large Chocoana Municipios that lie to the northwest.

But these Municipios are unique in this part of the Andes for having a very large Afro-Colombiano population, descendants of the slaves brought to the country 300-400 years ago. The culture, music, societal structures, etc., all reflect the African heritage of the people in this area. They are very conscious of their unique inheritance, and this dominates all contact with them.

The Valle de Patia itself is found in the Municipio of Patia, and is flat, very dry, and due to the constant presence of a relatively large population for several centuries now, has suffered large losses in forest cover. Water is available, both in the Patia River and in subterranean sources, but though irrigation projects for the area have been studied, none have been implemented, greatly restricting the current agricultural capabilities of this zone. The valley also still includes many large hacendados that are used mostly for cattle, and this also has restricted the agricultural development. However, as the guerrilla presence is relatively strong in this area, many of the original landowners can no longer visit their farms, and unique opportunities exist at this point for local organizations to examine either the purchase or rental of these lands.

The Pan-American highway runs through much of the Zona Patia, and as such there is excellent access to Popayan, Pasto, and Cali. Relatively good roads are found in the rest of the zone as well.

With the good transportation, the area has a solid tradition of fruit production, including papayas and watermelons at the low levels, and lulu, tomate de arbol, and mora at the higher elevations.

However, in spite of having some solid prospects for economic development, the current NBI levels are very high here, being 43.6% worse than the Departmental average, and 109.5% above the national average.

This is an area with a very high incidence of illicit crop cultivation, with approximately three fourths of the coca in the department, and nearly one fourth of the poppies. The good news, however, is that due to the good transportation, presence of water, and very evident and strong desire of the community leaders to escape from the damage done by the drug cultivations, the potential for a successful implementation of alternative crops is relatively high.

F. Zona Macizo Colombiano (Exhibit 8)

The Zona Maciso Colombiano, or zone of the Colombian massif, is the relatively small area found directly south of Popayan, and extending farther south toward the lowlands found in the Pie Monte Amazonica zone and Putumayo. This area is very high, with three of the Municipios averaging over 2,300 meters. As such, it is quite cold, and the mountainous terrain permits only a fair infrastructure. There is no industry, and the population exists principally on subsistence agriculture.

The four main rivers of the region, the Cauca, the Magdalena, the Patia, and the Caqueta all originate here, but this difficult terrain makes irrigation problematical. And the combination of all of these factors lead to the Zone having

an NBI level that is 44.3% worse than the Departmental average, and 110.3% above the national average.

Due to the relative isolation and very low levels of income, this area has a large guerrilla presence among the indigenous and colono populations. And this all leads to this small zone having over a quarter of all of the poppies in the Department, and nearly 400 hectares of coca as well, in spite of the altitudes.

F. Zona Pie Monte Amazona (Exhibit 9)

The Zona Pie Monte, literally named, as it lies at the feet of the Colombian massif, leading toward the lowlands of Putumayo, is very similar in characteristics to the Zona Choco`. This is a relatively large land mass (over 18% of the Department), with a very small population (less than 2.0% of the Department.) of mostly colonos, with just a few indigenous peoples. This is again due to the hostile conditions, as it is very rainy, with poor soils. There are nearly no internal roads, and the southern area has better access to Putumayo and Mocoa than it does to Popayan.

Inevitably, with these difficult conditions, the NBI level is the worst in the Department, being 61.3% over the Departmental level, and 135.1% worse than the national level.

We again have the anomalous condition of having a very large area, bordering on a major drug producing area such as Putumayo, with government statistics indicating the presence of only 180 hectares of coca on the Municipio of Santa Rosa. There are few who would believe that this reflects the reality, but the nearly complete lack of state presence and adequate transportation infrastructure would seem to make this area an unlikely target for successful eradication and implementation projects at this time.

III. Alternative Development Methodology

All projects of this sort have inevitable constraints of time and resources. As such, we have used the data presented in the previous several pages and established a priority order, which will guide the alternative development efforts.

First, in Exhibit 10, we can see the summary of the seven zones, detailing the relative shares of the land surface and population.

Second, as all of the work done in this project is tied to the eradication and/or prevention of the cultivation of illicit crops, it is important to determine the existing knowledge for the quantities and locations of these crops. Exhibit 11 is a map that shows where in the Department the plantings are located.

Exhibit 12 indicates the exact number of hectares of coca and poppies that are planted in each of the Municipios, as reflected in the previous map. Here we can also see the relative share of the Departmental plantings, as well as the number of veredas affected, and the number of families involved in the relative plantings of coca and poppies.

And in Exhibit 13, we can see the summary of all of these data, now placed in the order of priority that we feel the zones should be addressed.

Zona Patia seems to be an obvious top priority, with over half of the illicit crops, one third of the affected families, but yet only 17% of the land area. The Zona Patia also enjoys the benefit of having an apparently strong level of organization among the Afro-Colombianos, who have developed several plans that they are strongly committed to implementing, in the interest of reducing the plantings off illicit crops and restoring their cultures.

The Zona Oriental flows close behind Patia, with nearly half of the poppies in the department, and one third of the affected families. The Zona Oriental also enjoys the advantage of a high level of organization among the indigenous residents that indicates a greater opportunity for success with the development projects.

The Maciso Colombiano is our choice for the next priority. Here we find over one quarter of the poppies in the Department, as well as nearly one fifth of the affected families. This area does not have some of the same organizational advantages of the other zones, and the guerrilla presence is large. However, the priority level is deserved, due to the large number of hectares affected.

The Zona Norte Caucana has a large population, but a small number of hectares affected. As such, it will not be considered in the initial projects proposed.

The Meseta de Popayan has the largest population. But this relatively prosperous area is ostensibly completely free from illicit cultivations.

The Pie de Monte Amazonica is a very large area with a very small population (only 1.47% of the Department), and with approximately 180 hectares of coca in Santa Rosa. As such, this Municipio will also not be considered in the initial work, unless the afflicted area is very close to the border with Bolivar or San Sebastian, where we intend to locate other projects.

The Zona Choco` is the last priority, and an easy choice for this ranking. It is virtually inaccessible, very dangerous, has no transportation infrastructure, and we are not even sure of the number of hectares affected, as no one goes in there to understand and quantify the situation. As such, it should probably wait for another phase of development.

IV. Recommended Projects

The keys to any successful development effort of this sort are the appropriate selection of the geographic areas to be addressed (done in the above section), and then the selection of the actual projects which have the highest opportunities for economic success and sustainability, accompanied by the selection of the implementing organizations. These will provide a combination of administrative strengths and specific product experience.

This section will list the projects recommended by geographic area, with a description of the benefits expected to be derived, and the organization recommended to be involved. As many of these projects are broad packages of efforts, priorities will be recommended for the specific efforts within the projects.

The following section will provide a greater level of detail about all of the organizations that are being recommended for inclusion within the work in Cauca. And then the last section will address each of the specific products areas in much greater detail.

A. Zona Patia

1. 1,000 Hectare Community Project

1,000 hectares of eradication is being proposed in the Municipios of Balboa, Mercaderes, El Tambo, Patia, and La Sierra. This is a significant effort, intended to benefit 3,400 families. It will be led by FUNDEBAP, apparently the leading organization of this sort in the Patia area, but will have several other local organizations involved as well. A package of substitute crops is recommended, some involved directly in eradication, and others designed to provide supplemental income. The order of priority for these crops-products, based upon an expectation of economic success, would be as follows:

- a. Vegetables
- b. Hot climate fruits
- c. Corn
- d. Frijol/Guandul
- e. Totumo
- f. Apicultura
- g. Caña Panelera
- h. Aromatic/Medicinal Plants
- i. Productos Lacteos/Kumis
- j. Coffee
- k. Light Artisan Manufacturing
- l. Chontaduro

These products are all addressed in detail in Section V below, together with the organizations that will provide the appropriate production and marketing assistance. This is a large and complex project, with the potential to benefit a great number of families, and accomplish a serious amount of eradication. In addition, it will have a very high level of community support. The key to the success will be the level of attention to detail in the planning process. For instance, some of the products mentioned above will provide income in 90 days, some in nine months, and some in three years. All of this

must be taken into account in the planning for the complete package of new products for this area. However, in early conversations with the Deans of the Departments of Agriculture and Economics of the University of Cauca, when they were asked what were the largest obstacles to successful economic development in this area, they replied that it was the lack of water, technical knowledge, transportation, and working capital. Add organizational capabilities to that list, and those are exactly the issues that this program will be addressing.

2. Silk Products

A small silk industry has appeared in Cauca in the last few years, and is well on the path to successful development. It is now functioning in 10 villages, benefiting 280 families, and is being managed by a competent organization based in Popayan, CORSEDA. This is being recommended for a 50 hectare expansion at this time, which would also mean 50 hectares of eradication. However, based upon marketing studies which are being done now, and an economic study which is being recommended, the expansion could be several times greater than this.

3. Project with the Comité de Cafeteros

The Comité de Cafeteros is the most powerful organization in the Department, being the controlling body for the 74,000 hectares of coffee grown in Cauca. The level of illicit crops has exploded in the coffee areas in the last few years, reflecting the plunge in international coffee prices. However, though new planting of coffee is strictly forbidden (based on an international accord, designed to deal with the significant over-supply at this time), there is a deep level of interest on projects of eradication, based on the replanting of coffee, and the planting of additional food crops, both to generate extra income, and to provide the “ Seguridad Alimentaria “ that is absent from the coffee zones now.

The Comité de Cafeteros in Cauca has been working on plans, based upon the above criteria, and it now appears as if these projects will have eradication programs amounting to 5,000-10,000 hectares, in all of the three targeted areas combined – the Zona Oriental, the Zona Patia, and the Zona Maciso Colombiano. However, at the time of this writing, the projects have not been submitted to the Chemonics personnel. As soon as we have them, they will be summarized, and added to this report.

B. Zona Oriental

1. Project with the Comité de Cafeteros

Please see A-3 above.

2. Universidad de Cauca

The University of Cauca, through the Facultad de Ciencias Agropecuarias and its Dean, Henry Maya, has proposed a plan for the eradication of 1,000 hectares of illicit crops in the Zona Oriental of Cauca. The specific Municipios would be Toribio, Jambalo, and Silvia, an area that has a population of approximately 46,000 people, and 9,300 families. The program would be for a period of three years, designed to involve the local communities, and install sustainable investments primarily in the areas of food production. The project has been submitted to Chemonics very recently, and will be examined thoroughly in the next few weeks.

3. Project with the Organizaciones Indígenas

We have been contacted by indigenous organizations with an interest in establishing projects similar to that being considered for the Patia area. We have not had the time or opportunity to meet with these organizations, in order to investigate the viability of these projects. However, given that the Zona Oriental is one of our high priority areas, this will be done at the most immediate opportunity.

C. Zona Maziso Colombiano

1. Project with the Comité de Cafeteros

Please see A-3 above.

V. Recommended Organizations

A. FUNDEBAP

The Patia area is defined primarily by the presence of predominantly AfroColombianos, who have organized themselves within several entities, the most important of which is FUNDEBAP – the Fundación para el Desarrollo del Bajo Patia. FUNDEBAP has focused on developing what it calls the Plan de Vida, or basically the approach to life, in broad economic and social terms for the residents of this area. They are very conscious of having led an existence that has been separated from the mainstream of Colombian life and culture, and have worked hard to support and maintain their own cultural roots.

As such, FUNDEBAP appears to have broad and solid support within the community, and this is well evidenced by its position

within the purchase of the 107 hectare farm known as La Pachuca, which is serving as a model farm for the entire community, where training and demonstration plots can take place.

FUNDEBAP works with many other associations in this region, such as COSURCA, the Asociacion Afropatia, the Gran Concejo Afropatiano, the Asociacion AFRORIOPATIA, Asopatia, and ASPROME. Given all of the above, they appear to be a logical candidate for the organization that would lead the development effort in this area.

B. CONIF

CONIF, the Corporacion Nacional de Investigaciones y Fomento Forestal, is a mixed (private and public) company that is working with Chemonics in all of the areas involving forests and wood products. They have a work plan for Cauca that includes reforestation, with new plantings that can be directly tied to eradication, and the maintenance and improvement of existing plantings, that will be studied to determine if they can be combined with other larger projects that involve eradication through the planting of food and other crops.

C. Comite de Cafeteros

Colombia is a country in which coffee has been the dominant agricultural product for many decades, and its umbrella organization, the Federacion de Cafeteros, is perhaps the most respected organization in the country. At a local level, the Comite de Cafeteros holds this same level of respect, and is undoubtedly the strongest organization with which Chemonics could work in Cauca (or in any Department.)

The Comite is a powerful organization, as it represents farmers who have coffee on 74,000 hectares in Cauca alone. It provides technical and social assistance, and through its national affiliates, handles all of the sales of the coffee. Its representatives have the ability to travel anywhere safely within the country, something that cannot be taken lightly in these difficult times. They have also worked with products other than coffee with their members, and have always had a strong environmental element in their programs. As such, any program that can be developed with this organization begins with many advantages.

D. CORSEDA

CORSEDA is the controlling organization for the silk products efforts in this area, and is managed by Jorge Rodriguez. It only has two years of legal existence, and is owned by the 10 village level organizations that are involved. These organizations have approximately 260 families and 800 people involved.

CORSEDA handles the sales, the technical training, the sales of inputs to the members, and social services. They are involved in the entire chain of production and sales, from the moving of the larva/worms to the members, to the collection and sale of the final products. In addition, they are very involved in the social aspects of the lives of their participants, and a portion of their revenues is devoted to this area.

Though small, this appears to be a very well managed operation, and can probably be expanded well beyond the 25-50 hectares they want to consider for the near future. The operational aspect of this is addressed in the “ Silk/Mulberry Products “ section below.

E. COSURCA

COSURCA, the Corporacion del Sur de Cauca, is one of the most respected organization in the area, and one with which we should definitely consider becoming involved. Their reputation is excellent, in terms of the technical and marketing assistance they provide, as well as their ability to work with campesino organizations on social and economic programs.

Their largest current project is with organic coffee, where they work with 700 families in the organic trade and another 900 families in “ café social “. They are ostensibly the largest shipper of organic coffee in the country. As such, they have strong contacts with organic buyers in the U.S., as well as “ Fair Trade “ coffee buyers in the U.S. and Europe. This year they will ship more than 13 containers of both kinds of coffee, and they are currently sold through 2003. They would like to double the size of their coffee growing, by another 700 families and 800 hectares, but do not have the funds to do so.

They have also worked with the production and sale of papaya and lulo, and they manage the sales directly into the supermarket chains of Colombia, such as Carrefour. They have worked with many of the organizations with whom we are considering working, such as FUNDEBAP, and come highly recommended by everyone.

F. Universidad de Cauca

The University of Cauca is the most respected educational institution in this area, and has had a deep community involvement for many

years. During times of significant unrest in this zone, the government has asked the University to participate with and assist the local communities, in the efforts designed to improve their economic and social problems.

From the very beginning of our work in Cauca, both Dr. Henry Maya, the Dean of the School of Agricultural Science, and Dr. Luis Alfonso Calvo, the Dean of the School of Business (Ciencias Contables, Economicas, y Administrativas) have shown a deep interest in our programs, and a desire to participate. They have submitted a proposal based on eradication and replanting in the Zona Oriental/Indigena (discussed above), that will be examined carefully. But there are other areas in which the University could be involved, and these will be pursued in the near future.

G. Corpotunia

Corpotunia is an organization that is 16 years old, founded by Carvajal y Cia., Fidefues, and other entities with the intention of assisting in agricultural and artistic development in Cauca. (The small town of Tunia is located near Piendamó, in the Meseta of Popayan.)

They have a full time staff of 5 people, and an additional 60 working in five different lines of products, including ceramics and other handicrafts, caña panela, cold climate fruits, and aquaculture. They provide technical assistance, marketing assistance, do market studies, and become involved in the social aspects of their projects as well. They also provide specialized assistance in the area of the creation of small businesses.

They have a very deep level of experience in two products that are important for us, which are caña panelera and medicinal and aromatic plants, and condiments. They also have a lot of experience in cold weather fruits. They have an excellent reputation in the area, and would be a very likely candidate to assist the broad package projects in these specific areas.

H. CARCE

CARCE functions on a national level, working on the promotion of Colombian exports. Through its efforts in Cauca, the Consorcio de Exportaciones de Cauca was formed. It appears as if we will derive some solid advantages in our efforts in the Department of Cauca by working closely with CARCE for a couple of reasons.

First, the current President is Jorge Rodríguez, the head of CORSEDA, the silk operation with which we hope to work. He supports strongly the efforts of Chemonics in Cauca.

Second, CARCE is the organization that will work on and try to implement the positions recently taken at a national level with the Acuerdo de Competitividad. This exercise was carried out in the entire country, and from this work, ten Departments were chosen, and ten lines of products, for a ten year program to support exports. Cauca and Nariño were two of the Departments chosen, and the AgroIndustrial area includes four products that we would like to have play an integral role in the Cauca development – Silk Products, Caña Panelera, Apicultura, and Chontadurro. Studies have already been done for some of the products in Cauca, and all of this information will be made available to us, as our work in Cauca complements the goals of CARCE, on both a local and national level.

I. ASPROME

ASPROME is an organization made up of 9 separate campesino organizations, with a total of approximately 2,000 families. The organization is 16 years old, and they own a fruit processing plant in Palmira, near the Cali airport, about 2 hours from Patia. The plant is only a couple of years old, is just now coming into production, and was financed with EU money.

The plant has the capability of producing fruit pulps, marmalades, dried fruit, and can also process fruit seeds for oil. They are currently processing and exporting organic marmalades to Germany and Switzerland. They also sell some fresh fruit into the Colombia supermarkets.

They also have a processing plant in Patia, which produces a lower quality grade of marmalade.

Up to now, they have worked only with organic products, as they feel that they would have a hard time competing on the international market with non-organic. They are currently working with banana, pineapple, mango, guayaba, and maracuya products.

They handle all of the selling and marketing, and provide technical assistance to the members. They have also financed certain irrigation projects in Patia. They are only working at a small fraction of the plant's capacity, and though any increase in sales would go to their members first, they have a good reputation, and are a very likely candidate to assist with the sales of fruit products from all of our locations in Cauca.

J. CORPOICA

CORPOICA is the Corporacion Colombiana de Investigacion Agropecuaria, with offices and projects in agricultural investigation all over Colombia.

They have done a great deal of work in the Patia area, and are of interest to us because of their work in corn, soil degradation, and environmental issues specifically in the Patia area, both in Cauca and Nariño. They recently completed a several year study of the appropriate corn varieties for the Patia area, and have found better varieties which can triple the yields with no change in growing conditions (such as irrigation.)

Though they did not appear to us to have the managerial capabilities that would make them a candidate for an operating role, they said that they would definitely be interested in becoming involved in providing technical assistance to the Patia farmers who are members of our project. They are the ideal organization to assist in the detailed planning of an area like the Valle de Patia, in terms of selecting the appropriate products for the appropriate areas, and in designing appropriate environmental projects for these same areas.

K.COOTRAFORD

COOTRAFORD is the Cooperativa Agroforestal del Cauca. It is 10 years old, and has approximately 530 members. They work with the entire forestry chain, from the planting of the trees, to the maintenance and the harvesting. In addition, the cooperative is very involved in some social aspects of the lives of its members.

Their primary work now is the care and maintenance of 8,000 hectares of forest belonging to Carton de Colombia, where they are essentially the outside service providers for all of the work in these forests. In addition, they have worked in Municipios of interest to us, such as Cajibío, Sotara, Timbío, and in the Maciso Colombiano.

This organization is of interest to us if we identify a need for technical assistance and an experienced forestry presence in any of our projects that cannot be supplied by CONIF. They appear to be a serious organization, and they would welcome the opportunity to participate.

VI.Recommended Products

A.Vegetables

A major opportunity appears to be available in this area, with the production of high quality vegetables. The entrance of the coca and the lack of available water have led to a diminishing of the food supply available, particularly vegetables. Done correctly, this can

significantly improve the diets of the municipalities, as well as raise local income levels. But to be successful, there are four elements that must be present.

1. This is a very dry area, and modest irrigation systems should be installed. We received a cost estimate locally of \$20,000 for a 90-100 meter deep well, capable of producing 20 liters per second. This should have the capability of irrigating 30-35 hectares of fruits and/or vegetables. With the additional equipment necessary, this should be able to be installed for approximately \$1,000/hectare.. We have received other proposals for this area, amounting to nearly \$4,000/hectare, and they need to be investigated. However, no other single benefit will mean as much to this area as irrigation.

We will have a significant area of strength available to us here, as the University of Nariño has conducted extensive irrigation work in the Patia area, and has designed low cost systems specifically for this zone. They have offered to help us when the time comes to design the irrigation systems.

2. As these efforts will be handled on a community as well as an individual basis, they need to be very well organized and managed. This will encompass the entire effort, from planting to marketing.

3. Technical assistance needs to be provided, beginning with the recommendation of superior varieties, the provision of certified seed, and through all of the field practices, from planting to post-harvest. This can be done through the local University, which has expressed an interest in participating in this aspect. In addition, the leaders of Patia have recommended that the students be residents of Patia, as this will make the communication and acceptance much easier.

4. The last aspect that is critical is marketing assistance. Some of this product will be for self-consumption, but done well, this will produce a significant amount of product that can be sold from Pasto to Cali. This should all be organized, with transportation being provided and a very visible presence established in the appropriate marketplaces.

I worked on an identical project such as this in Nicaragua, and the returns were extraordinary. The only irrigation provided was through the sale of \$80.00 kits, capable of irrigating 400 square meters (and then moved to another location.) The total agency cost was \$100,000, for a project that covered 150 hectares the first year, including foreign technical assistance and overhead. The annual income increase of the local farmers was approximately 200.0%,

taking them to a cash income level of approximately \$1,500.00 per hectare per year.

The vegetables recommended to start would be tomatoes, cucumbers, peppers, onions, and garlic. Experiments could be done in others, such as eggplant and sweet corn, to determine market acceptance.

Organizations mentioned above, such as ASPROME, Corpotunia, and COSURCA all have experience in the marketing of fruits, and they will be considered as candidates to assist in the marketing of vegetables.

B.Hot Climate Fruits

The thought process and logic for the hot climate fruits is identical to that of the vegetables. There appear to be excellent possibilities for the planting of melons, papayas, (small, seedless) watermelons, and perhaps pitaya. But with irrigation, technical assistance, good marketing, and solid organization, this sector could provide a solid area of nutritional support and earnings potential for the Patia area. Again, the three organizations mentioned- Corpotunia, COSURCA, and ASPROME will all be approached as candidates for sales and marketing assistance.

C.Cold Climate Fruits

Again, the reasoning and logic are identical in this area as well. The key here is to do the market planning well, as there are certain cold climate fruits which appear to be reaching the threshold of market saturation in the country. This is certainly true of mora, and could also be true of maracuya and tomate de arbol. Only lulo appears to be a relatively low risk investment (in terms of marketing possibilities).

The same companies mentioned above will again be approached for assistance in the sales and marketing of these products.

D.Silk/Mulberry Products

A very interesting opportunity exists to seriously expand the nascent silk and mulberry products industry in Cauca. They are currently selling products successfully now from 10 village organizations, involving 170 farms, and probably somewhat less than 100 hectares of mulberry, all being organized and sold by Corseda. They have been successful by keeping the whole deal very tightly controlled, only producing products that have been presold. However, as they have no money to do any kind of international marketing, they really have no idea of their potential. The initial marketing efforts made by

Chemonics appear to indicate that they have very saleable products, but we lack the solid information that would be necessary to make any concrete recommendations. They would also like to invest more funds in technical assistance, in order to increase the levels of productivity of their members. For instance, the silkworm cycle is 40 days, which makes 9 cycles/harvests per year theoretically possible. However, only a few of the members achieve this, and the average is closer to 4.0-5.0.

This operation has available for immediate sale silk cocoons, silk thread, and finished silk woven products. They can move immediately into mulberry leaves available for forage. (Mulberry leaves have a very high protein content, and are an excellent product for forage.)And with the proper training and investment, they could perhaps produce industrial grade silk fabric (working with mills in Antioquia), and high grade artist mulberry paper.

They are willing to move forward immediately with a 25-50 hectare expansion, and this project has been presented in detail. However, we strongly recommend a study that should not take more than a few weeks, which would analyze the internal economics of the industry, determine their ability to compete domestically and internationally with all of the above products, and then recommend the appropriate path for this potentially very interesting industry.

E. Apiculture

Apicultura appears to be one of the most promising areas for our large agricultural substitution packages. Though it will not be tied specifically to direct eradication, it is an excellent family level industry, with marketing and technical assistance available, and appears to be a solid generator of income.

Javier Arroyave is the founder and owner of Productos Arroyave, the largest seller of apiculture products in southern Colombia. He has expressed a serious interest in wishing to participate in a major project in both Patia and the Zona Oriental. A major project would mean the selling/providing of a few thousand hives.

First, both Patia and the Zona Oriental are said to hold a high level of promise as areas in which to place bee hives, due to the large amount of forest and agriculture land available. Second, the industry is very undeveloped in both locations.

The business begins with the providing of 20 hives to a family, as this is as many as they can handle in the beginning. After 1-2 years, they can increase to up to 50 hives.

One hive costs approximately \$100.00, which includes the cost of the hives, the bees, all of the protective clothing, etc.

Javier works with a cooperative that he helped to form, called COAPICA, which can provide the training for all of the new participants in bee culture. In addition, they will help to provide the bees necessary for the new hives.

In a forested/undeveloped area, such as Patia and the Zona Oriental are now, there is a need for approximately one hive per hectare. As areas become more developed in agriculture, particularly in corn (which we wish to do in Patia), this can go up to 10 hives per hectare.

At full production, one hive will produce revenues of approximately 400,000 pesos/year. This is divided into 44% honey, 38% bee pollen, 11% propolios, and 7% bee wax. (Their actual product list is much longer than this, as they also produce other honey derivatives, other wax products, and several “ health food “ products, as they are all big believers in “ apiterapia “, which is essentially the use of a honey based product for whatever ailment one might have.)

Productos Arroyave state that they are currently buying products from more than 1,000 hives, and they have a significant shortage of product, including export orders that they can not fill.

F. Agro-Forestry

The program of CONIF with Chemonics has contemplated the planting of 400 hectares of new forests within Cauca and Nariño. In Cauca, the areas to be planted lie exactly within the Zona Oriental, one of the areas of high priority for the eradication of illicit products. As such, this program will be considered for combination with one of the large programs of Chemonics in this area (either that of the Comité de Cafeteros, the University of Cauca, or directly with one of the indigenous organizations). This will mean a more complete package program for the area, which can now include food crops, other crops such as figue or mulberry for silk, and now reforestation. In addition, the participation of COOTRAFORD, given their deep level of experience in the area, will be considered.

Another, perhaps more appropriate application of this opportunity would be to include all or a portion of the 400 hectares within the Patia project mentioned above. This is intended to be a fully integrated project involving several different economic alternatives that will have payback periods (the time necessary to produce a positive cash flow from the project), ranging from three months to several years. However, given that the package will focus on high value fruits and vegetables, with rapid payback periods, this is a solid opportunity to combine the planting of the 400 hectares of very long lead time forestry products with the others, so that the local

residents will have economically sustaining investments while the environmentally appropriate and long term economic investments of the trees are maturing. If all of this makes sense, CONIF should move forward soon to prepare the seedbeds for the planting materials for the tree varieties that are considered to be appropriate for the local conditions. In addition, CONIF will hopefully become involved in the totumo for Patia, as described in the totumo section below.

G.Specialty/Organic Coffees

The Comité de Cafeteros in Cauca has been working for over a year on programs of establishing economically successful projects among their members for organic coffee, specialty coffee, and crop diversification. They have excellent contacts with specialty coffee buyers in the U.S. and Europe, and the program has made solid progress in terms of raising the average prices realized for the coffee.

A program will be presented by the Comité de Cafeteros to Chemonics, which will involve the plantings of fruit, vegetables, and organic/specialty coffees, with direct ties to the eradication of illicit crops. Given the powerful position of the Comité de Cafeteros within the local community and among their members, any project associated with this organization has a high probability of success, and will be examined carefully.

In addition, COSURCA has a great deal of experience in the marketing of specialty coffees, and will be considered for any project involving these products.

H.Totumo

Totumo is a product that is intimately intertwined into the lives and culture of the AfroColombian residents of the Patia area. In the initial suggested project for eradication and substitution, they had proposed the planting of 320 hectares of totumo, and in the most recent proposal, they have suggested the planting of 500 hectares of totumo.

The reality is that by solid economic standards, this is a “bush” product, with very little known about it. There is no question but that it seems to hold a lot of promise, in that it can be used for the wood, the pulp (both for animal feed and for medicines), and the gourds are integral to a handicraft industry.

There is a 20 hectare block on the model farm of La Pachuca, which can be thought of as a germ plasm bank. CONIF has suggested that they become involved in the following on La Pachuca, while we determine what makes economic sense for the larger eradication and substitution work. In this 20 hectare block, CONIF would:

1. Identify the appropriate totumo varieties for the appropriate purposes (wood, pulp, handicrafts, etc.)
2. Develop the appropriate agricultural practices.
3. Maintain and improve the 20 hectare germ plasm block.
4. Develop a nursery of cuttings of the chosen varieties.
5. Develop practices for shading crops.
6. Develop practices for shading pastures.
7. Help with the plantings of live fences.

In addition, Chemonics will continue to explore the area of light artisan manufacturing, and will assist the community organizations with the appropriate training and marketing in the areas of products that appear to show commercial promise.

I. Caña Panela

Caña panelera is one of the most basic products of rural Colombia, and is particularly prevalent in this area. There are 13,000 families that cultivate panela in Cauca, and there is virtually no organization within the industry. The demand is solid, and there also appears to be a growing international market for the export of organic panela, which is currently being done by Costa Rica and Ecuador. We have an additional advantage here in that we have an organization that has done extensive work in the area – Corpotunia. There is another advantage, in that this is one of the products being promoted by the government under the Acuerdo de Competitividad, which may prove to be useful.

J. Corn/Guandul

Corn and beans are two of the staple products of this area, and should definitely be included in any large scale package such as is being proposed for Patia. In addition, this is of particular interest as CORPOICA has done research in the Patia area with new varieties of corn that have a yield that is triple that of the varieties currently being used.

Guandul is a variety of bean that is apparently liked by the AfroColombian culture, and they would like to make this a key part of the eradication and substitution work in Patia. In addition, CORPOICA has done research in guandul for the Patia area, and has recommended it very highly.

In both cases, not enough is known to recommend the immediate planting of large areas. However, these are both definite candidates for short term study on the model farm in La Pachuca, while more traditional varieties are planted, and then they could be moved into the eradication areas on a larger scale.

K. Figue

Figue is a very traditional product within south-western Colombia, with over 13,000 hectares being planted in Cauca and Nariño. The product has had a very problematic history, as large expansions have been encouraged in the past, and then significant overproduction led to very difficult circumstances for the growers. In addition, as it has been processed traditionally and naturally, it has caused significant environmental problems, as the plant releases a toxic substance that affects the local watersheds.

However, there is currently a shortage of the product, and Colombia is importing 4,000 tons a year off sisal products from Brazil, all of which could be replaced with figue plantings here. All of the principal production plants of figue in the country (in Popayan, Medellin, and Santander) have expressed formal and written interest in supporting an expansion in plantings.

This only deals with the twine (cabuya) that can be produced from the figue. However, there is another area that shows very interesting promise, and that is the products that can be manufactured from the liquid produced in the figue processing. Ostensibly, Chinese concerns have planted very significant area of figue in Venezuela and Brazil, based solely on this area, and not on the fiber. A small pilot plant has been erected in El Tambo, Nariño, to continue the research in this area.

On 9/24, in Bogota I met with Ines Toro Suarez, a PhD in chemistry and a specialist in soil chemistry and eco-systems, who works with CORPOICA. It turns out that she is the key person in two areas of significant concern for us – the pilot plant for figue in Tambo, and soil/eco-systems work in Patia.

Ines was originally contacted by some figueros in 1998, asking her if there was anything that could be done with the liquid that is extracted when the figue is processed. As she was already involved in the work in the Alto Patia, and as figue is an important product for the area, she began to look at it. And she found that, as it is a plant native to this area (and northern Venezuela), there had never been any real research done.

There is a long story after this, but basically, they got all of the Municipios that are interested to put up money, first for a pre-

feasibility study, and then for the plant itself. As Tambo is the biggest producer, it put up the biggest chunk of the money, and the plant is located in Tambo. The city of Pasto also put up funds (for a useless boiler), and even with a year's delay in the replacement of the boiler, the plant will begin operations in two weeks.

There are two basic areas for research here. One is the ability to produce basic products that can be made from the fats and the sugars of the liquid. The plant is heavy in fats, and they can be used in the manufacturing of shoe polish, soaps, and other products. (But just like with the laurel de cera, we have no idea if they would be competitive.) The other area is the more interesting. They now have an alliance with a Colombian pharmaceutical company, and they will begin the research in the area of the products that would be used in the manufacturing of feminine hormone pills, and " corticoids ", that are used in arthritis treatment and rejection (in transplants) prevention. This research is well developed in other areas (this is the area that the Chinese are interested in), and they are trying to determine the most efficient methods of extracting the chemicals from the liquid.

The research in the sugar and fat areas could take one year, and the other area could take up to three years.

They have done something very interesting here, in the design of a tank that would be used at farm level, for the collection of the liquid. This would solve the environmental problems that fique causes, by removing this toxic liquid from the environment. They want to do all of this on a small basis in the fique production areas, with the big fiber processing plants putting up the money for the collecting systems as their contribution to the capital of the small liquid processing plants.

The company with which Chemonics has worked on its successful maracuya project, FUNDASET, has suggested that a study of fique similar to the study that they did for maracuya, be initiated. The goal would be the analysis of the potential of a 1,000 hectare expansion of fique, which would mean an eradication of approximately 175 hectares of illicit products, and the production of approximately 2,000 tons of fique, which would be half of the national deficit. Given the economic uncertainties and the environmental difficulties surrounding fique, I do not see how a recommendation for this product could be made without this sort of study. If the economics are solid, and the environmental questions can be addressed satisfactorily, then this is a good product to recommend. It is planted in small blocks, often on the edges of the properties where the coca

is planted, and the culture is well known. However, it cannot be considered without answering many questions first.

The company with which Chemonics has worked on its successful maracuya project, FUNDASET, has suggested that a study of fique similar to the study that they did for maracuya, be initiated. The goal would be the analysis of the potential of a 1,000 hectare expansion of fique, which would mean an eradication of approximately 175 hectares of illicit products, and the production of approximately 2,000 tons of fique, which would be half of the national deficit. Given the economic uncertainties and the environmental difficulties surrounding fique, I do not see how a recommendation for this product could be made without this sort of study. If the economics are solid, and the environmental questions can be addressed satisfactorily, then this is a good product to recommend. It is planted in small blocks, often on the edges of the properties where the coca is planted, and the culture is well known. However, it cannot be considered without answering many questions first.

L. Light Artisan Manufacturing

Chemonics has already initiated a process of determining the viability of a light manufacturing industry in Cauca for artisan type products found locally. Susan Inglis, the consultant involved in the project, did a survey of the capacities found in Cauca, and then brought several of the articles manufactured locally to the U.S., and found a generally positive market acceptance. The possibilities for development include:

1. Totumo based items.
2. Fique items, as rugs, bags, paper, etc.
3. Items made of wool.
4. Musical instruments.
5. Items made of tagua.
6. Items made of wood.
7. Paper mache items.

The development of an industry in this area requires a great deal of training, as well as close coordination with market requirements. However, it appears to hold promise, particularly as the Department has a very high level of unemployment and underemployment

among the women, and this needs to be considered as a development alternative, as part of a larger eradication project.

M. Aromatic/Medicinal Plants

While this area has been suggested for development in other regions, it is often difficult to execute successfully, due to the lack of specific knowledge. However, in Cauca we have the good fortune of having had one of the most respected development organization, Corpotunia, work in this area for many years. They have worked more specifically in the areas of laurel, manzanilla, oregano, tomillo, and albahaca. They expressed a definite interest in participating in the Patia project, as this is exactly the type of work that they were chartered to accomplish.

N. Aquaculture

An aquaculture project exists in the Municipio of Silvia, the only area in the Zona Oriental that does not have coffee as a likely candidate for expansion and eradication. A project has been proposed that will call for the expansion of the processing plant, and an increase in the number of fish tanks among the members, which will be directly tied to the eradication of illicit crops. Corpotunia has also done a great deal of work in this area, and will be requested to provide production and marketing assistance.

O. Chontaduro

Chontaduro, the fruit that comes from the palm used for palmito, or hearts of palm, is a widely consumed product in this area. The Municipio of Tambo alone has 700 families involved in the cultivation of chontaduro, and nearly 2,000 hectares planted. The product is sold in local markets from Cauca to Medellin.

When a tree used for chontaduro is in full production, the profits are very interesting, as the maintenance costs are quite low. The yields in this area are approximately 8,000 kilos/hectare/year, and the average selling price is approximately 1,000 pesos/kilo, with costs normally amounting to less than 1,000,000 pesos per hectare per year. Therefore, this amounts to an earnings of approximately \$2,500/hectare/year, a very interesting level.

The drawback here is the time necessary to reach full production – approximately seven years. However, the investment cost is very reasonable (approximately \$400.00/hectare), and given that chontaduro is on the government list of targeted products for

development, this should be looked at seriously as part of the development package in Patia.

P. Galantamina

We spoke with Dr. Fabio Cabezas and Dr. Apolinar Figuero of the science department of the University of Cauca. They are the ones that have been involved with the apparent progress made with the synthesis of galantamina at a laboratory level at the University. For a good sense of the international market for this product, please see the research done by Joel Weber of Chemonics. There is no question that a market exists for the product, but it appears to be a very difficult market to penetrate.

Galantamina is extracted from plants of the Amaryllidaceae family, and two species of this family – *Caliphruria Subdentate* and *Phaedranas e.p.* are found to be growing locally in the Popayan area. These specific plants apparently have a much higher than normal concentration of the galantamina, and this when combined with the advances made at the laboratory level, supposedly give the local operation an advantage. They are currently sending the extract to the University of Barcelona, which is doing further research. They hope to visit Spain later this year, to see about getting money to invest in the product.

This same faculty is also working on the extraction of essential oils and other extracts, from manzanillo, eucalyptus, limoncillo, anis and others. They feel that a pilot plant, with the capability of processing all of these products, can be built for approximately \$200,000.

We have asked them to submit a proposal detailing all of the economics involved here, including the investment, operating costs, potential sales, and the number of hectares of plant product that would be necessary to supply the operation. This appears to be a difficult project to justify, but we will see what is included in the study.

Q. Kumis/Other Milk Products

The Patia area has always had cattle as a stable part of its production and culture, and any recommendation for this area should take this into account. The members of FUNDEBAP have requested assistance for the investment in equipment which would allow them to produce one of their favourite products locally, which is kumis. Kumis is a milk byproduct, which is similar to yogurt. It has a strong demand in supermarkets and other local marketplaces in the region, and the marketing and sales should not be a problem.

The project as designed by FUNDEBAP calls for an investment of approximately \$25,000, which would allow for the production of approximately \$160,000 (in annual sales) of kumis and cheese. The details need to be examined more closely, but this certainly should be considered as a part of the package for Patia.

R. Cardamom

Cardamom should be examined as an alternative substitution product in the coffee growing areas. It has had a remarkable success in Guatemala over the last couple of decades, going from a new product to Guatemala now being the largest exporter in the world. It is an excellent product for small farmers, as, just as with coffee, cultivation areas as small as 0.25-.050 Has. are suitable. It is also a good product for areas like the Maciso Colombiano, with difficult access problems and poor infrastructure, as the seed is light, has a high value, and can be transported easily out of remote areas. Cardamom is a rhizome, similar to a banana, and the agricultural practices are not complicated. It takes over a year to come into full production, so this would have to be part of a larger package, with other products that will produce income more rapidly. However, in full production, the farmers that I worked with in Nicaragua recently were receiving a gross income of approximately \$1,700.00 per hectare per year.

Cardamom has a solid market, which grows steadily. However, the market is principally in the Middle East and Scandinavia. So any study which examines the suitability of cardamom for the highland areas of Cauca will have to determine the planted area necessary to fill a container over a reasonable period of time. (As the seeds are dried, they may be stored safely for extended periods of time.)

S. Other

In the development of the project, the possibility of other products appeared, but they were not included in the above list either due to the lack of information or to a poor likelihood of success. They were as follows:

1. Peaches – Peaches are said to grow well in some of the areas within the Zona Oriental. Given the small supply of peaches available domestically, this should be investigated, to determine if there are suitable varieties for the area, and if appropriate locations are available for their cultivation.

2. Avocados – Exactly the same was reported for avocados in the Zona Oriental, and these should be investigated as well.
3. Laurel de Cera – This was mentioned several times as a possibility for substitution planting. However, the research done by Chemonics indicates that the product is simply not competitive in the various market sectors (candles, cosmetics, etc.) in which it might be used. Therefore it was not recommended.
4. Yucca – The current yucca projects all appear to economic challenges. Therefore, yucca was not recommended here.
5. Yucca Starch – A large proposal for Almidon de Yuca has been put together by CCI. However, it would require a significant amount of investment, both capital and administrative, and the returns appear to be inferior to the other products recommended above. Therefore, this was also not included on the list of recommended products.

Exhibit 2

CARACTERISTICAS ZONA NORTE CAUCANA

Municipio	Superficie KM 2	% de Dept.	Población	% de Dept.	Altura	Temp.Promedio
Santander de Quilichao	521	1.64	71.700	5.71	1.075	23
Caloto	426	1.34	40.300	3.21	1.100	22
Padilla	100	0.32	11.100	0.88	1.000	23
Puerto Tejada	101	0.32	52.700	4.20	968	23
Miranda	185	0.58	23.500	1.87	1.093	23
Villa Rica	100	0.32	13.000	1.04	1.075	23
Subtotal	1433	4.52	212.300	16.91		
Morales	265	0.84	28.300	2.25	1.635	19
Buenos Aires	433	1.37	18.000	1.43	1.225	23
Suarez	391	1.23	24.900	1.98	1.050	27
Subtotal	1089	3.43	71.200	5.67		
TOTAL	2.522	7.95	283.500	22.59		

Exhibit 1

Mapa de Cauca

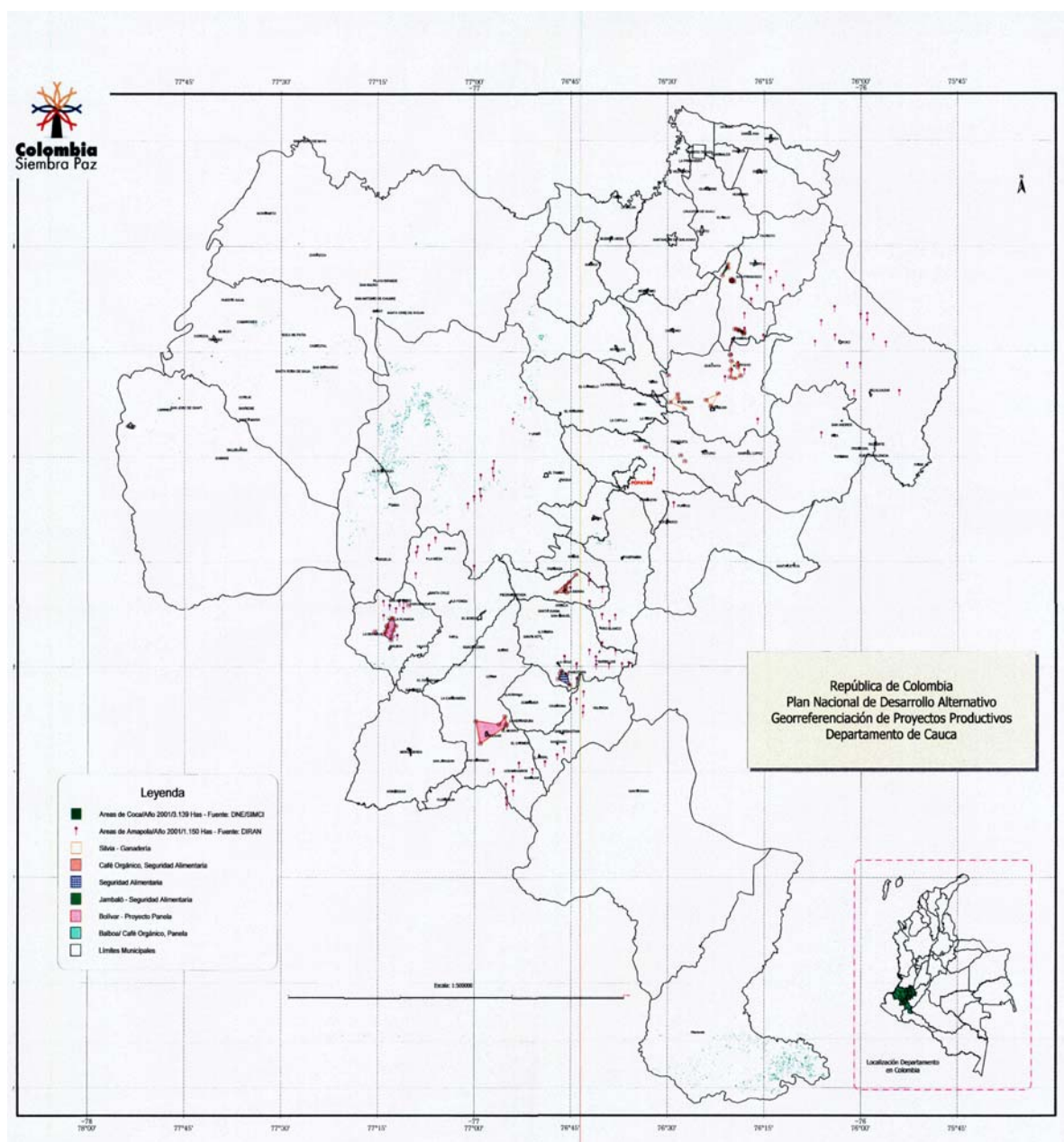


Exhibit 3

CARACTERISTICAS ZONA ORIENTAL

Municipio	Superficie KM 2	% de Dept.	Población	% de Dept.	Altura	Temp.Promedio
Corinto	282	0.89	25.300	2.02	1.250	22
Toribio	399	1.26	28.200	2.25	1.737	19
Paez	1.905	6.01	34.300	2.73	1.600	20
Inza	801	2.53	24.600	1.96	1.754	19
Jambalo	254	0.80	13.200	1.05	2.380	16
Silvia	813	2.56	37.600	3.00	2.521	15
Totoro	415	1.31	16.600	1.32	2.750	14
Caldono	444	1.40	32.000	2.55	1.920	18
Purace	707	2.23	18.300	1.46	2.360	16
Sotara	574	1.81	13.500	1.08	1.800	19
Subtotal	6.594	20.80	243.600	19.41		

CARACTERISTICAS ZONA ORIENTAL

- ❖ MUY MONTAÑOSA
- ❖ DOMINADA POR INDIGENAS
- ❖ PREDOMINAN LA AGRICULTURA Y LA GANADERIA PERO EN UN NIVEL BAJO
- ❖ NIVEL DE NBI 25.5% SOBRE PROMEDIO DEPARTAMENTAL Y 82.8% DEL PROMEDIO NACIONAL

Exhibit 4

RESGUARDOS DEL CAUCA

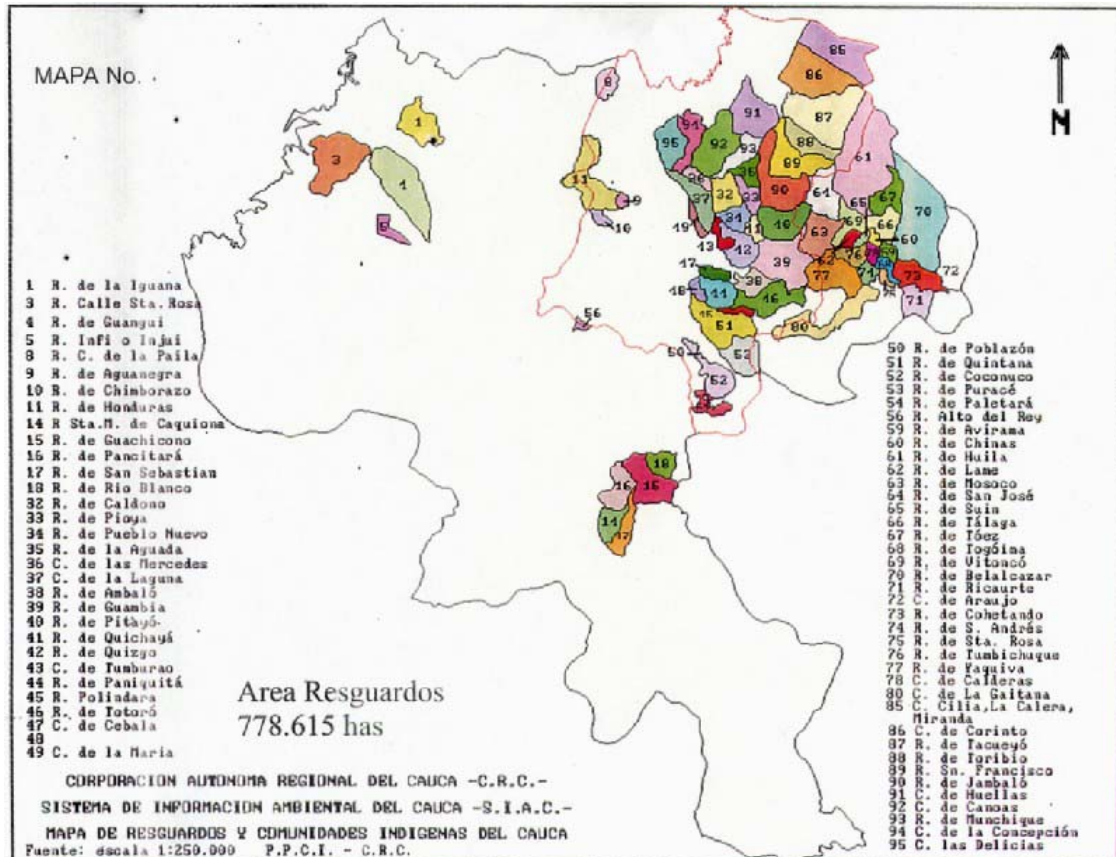


Exhibit 5

CARACTERISTICAS ZONA CHOCO (COSTEÑA)

Municipio	Superficie KM 2	% de Dept.	Población	% de Dept.	Altura	Temp.Promedio
Guapi	2.688	8.48	30.000	2.39	5	29
Timbiqui	1.813	5.72	32.700	2.61	5	28
Lopez de Micay	3.101	9.78	24.500	1.95	35	28
Subtotal	7.602	23.98	87.200	6.95		11

CARACTERISTICAS ZONA CHOCO (COSTEÑA)

- ❖ NO HAY CARRETERAS INTERNAS, SOLO UN PEQUEÑO AEROPUERTO EN GUAPI.
- ❖ NO HAY PRESENCIA DEL ESTADO
- ❖ NO HAY INFRAESTRUCTURA
- ❖ MUY LLUVIOSA

Exhibit 6

CARACTERISTICAS ZONA MESETA DE POPAYAN

Municipio	Superficie KM 2	% de Dept.	Población	% de Dept.	Altura	Temp.Promedio
Popayan	512	1.61	224.300	17.87	1.738	19
Cajibío	747	2.36	32.700	2.61	1.800	19
Piendamó	197	0.62	32.500	2.59	1.864	19
Timbío	180	0.57	26.600	2.12	1.852	18
Subtotal	1.636	5.16	316.100	25.18		

CARACTERISTICAS ZONA MESETA DE POPAYAN

- ❖ DOMINADA POR POPAYAN
- ❖ BUENAS CARRETERAS E INFRAESTRUCTURA
- ❖ BUENA AGRICULTURA Y ALGUNAS INDUSTRIAS
- NIVEL DE NBI 37.8% BAJO PROMEDIO DEPARTAMENTAL Y 8.0% BAJO PROMEDIO NACIONAL

Exhibit 7

CARACTERISTICAS ZONA PATIA

Municipio	Superficie KM 2	% de Dept.	Población	% de Dept.	Altura	Temp.Promedio
Patia	786	2.48	30.100	2.40	998	23
Balboa	360	1.14	24.500	1.95	1.630	19
Argelia	320	1.01	26.200	2.09	1.700	24
Florencia	55	0.17	6.100	0.49	1.700	18
Meercaderes	642	2.02	17.800	1.42	1.156	23
Tambo	3.280	10.34	49.800	3.97	1.750	18
Bolivar					1.770	19
Subtotal	5.443	17.17	154.500	12.31		

CARATERISTICAS ZONA PATIA

- ❖ LA MAYORIA PLANO, ALGUNAS ALTURAS
- ❖ MUY SECO, BOSQUES PESADOS PERDIDOS EN ALGUNAS AREAS
- ❖ DOMINADO POR AFRO COLOMBIANOS
- ❖ PRESENCIA DE GRANDES GANADEROS Y HACENDADOS
- ❖ NIVEL DE NBI 43.6% SOBRE PROMEDIO DEPARTAMENTAL Y 109.3% SOBRE PROMEDIO NACIONAL

Exhibit 8

CARACTERISTICAS ZONA MACISO COLOMBIANO

Municipio	Superficie KM 2	% de Dept.	Población	% de Dept.	Altura	Temp.Promedio
Almaguer	224	0.71	21.100	1.68	2.312	17
La Vega	484	1.53	28.600	2.28	2.272	16
San Sebastian	164	0.52	9.100	0.72	2.400	16
Bolivcar	707	2.23	57.100	4.55	1.770	19
Sucre	180	0.57	10.600	0.84		
La Sierra	217	0.68	12.900	1.03	1.760	18
Rosas	197	0.62	12.400	0.99	1.714	19
Subtotal	2.173	6.85	151.800	12.09		

CARACTERISTICAS ZONA MACISO COLOMBIANO

- ❖ MUY MONTAÑOSA
- ❖ POBRE INFRAESTRUCTURA, NO HAY INDUSTRIA
- ❖ AGRICULTURA BASICA PARA SUBSISTIR
- ❖ GRAN PRESENCIA DE GUERRILLA
- ❖ NIVEL NBI 44.3% SOBRE PROMEDIO DEPARTAMENTAL Y 110.3% SOBRE PROMEDIO NACIONAL

Exhibit 9

CARACTERISTICAS ZONA PIE MONTE AMAZONA

Municipio	Superficie KM 2	% de Dept.	Población	% de Dept.	Altura	Temp.Promedio
Piamonte	1.568	4.95	6.100	0.49		22
Santa Rosa	4.710	13.15	12.400	0.99	1.700	19
Subtotal	5.738	18.10	18.500	1.47		

CARACTERISTICAS ZONA PIE MONTE AMAZONA

- ❖ MUY LLUVIOSA
- ❖ LAS CARRETERAS INTERNAS CASI NO EXISTEN
- ❖ MUY POCA POBLACION (COLONOS)
- ❖ RESPONDE A PUTUMAYO Y MOCOA NO AL NORTE
- ❖ NIVEL NBI 61.3% SOBRE PROMEDIO DEPARTAMENTAL Y 135.1% SOBRE PROMEDIO NACIONAL

Exhibit 10

SUMARIO DE LAS ZONAS DEPARTAMENTALES DE CAUCA

<u>Zona</u>	<u>Superficie KM 2</u>	<u>% de Dept.</u>	<u>Población</u>	<u>% de Dept.</u>
1. Norte Caucana	2.522	7.95	283.500	22.59
2. Oriental	6.594	20.80	243.600	19.41
3. Choco	7.602	23.98	87.200	6.95
4. Meseta de Popayan	1.636	5.16	316.100	25.18
5. Patia	5.443	17.17	154.500	12.31
6. Maciso Colombiano	2.173	6.85	151.800	12.09
7. Pie Monte	5.738	18.10	18.500	1.47
TOTAL	31.708	100.00	1.255.200	100.00

Exhibit 11

MAPA DE PRODUCTOS ILICITOS



Exhibit 12

DETALLE DE CULTIVOS ILICITOS

	<u>ANALISIS DE MUNICIPIOS</u>						<u>NO. DE FAMILIAS INVOLUCRADAS</u>		
<u>Zona y Municipio</u>	<u>Has de Coca</u>	<u>% de Depto.</u>	<u>Has de Amapola</u>	<u>% de Depto.</u>	<u>Total de Has</u>	<u>% de Deptos</u>	<u>Vereda</u>	<u>Coca</u>	<u>Amapola</u>
1. Zona Norte Caucana									
Santander de Quilichao	0	0.00	0	0	0	0.00	0	0	0
Caloto	0	0.00	0	0	0	0.00	0	0	0
Padilla	0	0.00	0	0	0	0.00	0	0	0
Puerto Tejada	0	0.00	0	0	0	0.00	0	0	0
Miranda	250	5.82	10	0.31	260	3.47	6	325	40
Villa Rica	0	0.00	0	0	0	0.00	0	0	0
SubTotal	250	5.82	10	0.31	260	3.47	6	325	40
Morales	0	0.00	0	0	0	0.00	0	0	0
Buenos Aires	0	0.00	0	0	0	0.00	0	0	0
Suarez	0	0.00	0	0	0	0.00	0	0	0
SubTotal	0	0.00	0	0	0	0.00	0	0	0
Subtotal Zona Norte	250	5.82	10	0.31	260	3.47	6	325	40

DETALLE DE CULTIVOS ILICITOS

	ANALISIS DE MUNICIPIOS						NO. DE FAMILIAS INVOLUCRADAS		
<u>Zona y Municipio</u>	<u>Has de Coca</u>	<u>% de Dept.</u>	<u>Has de Amapola</u>	<u>% de Dept.</u>	<u>Total de Has</u>	<u>% de Dept.</u>	<u>Veredas</u>	<u>Coca</u>	<u>Amapola</u>
2. Zona Oriental									
Corinto	150	3.49	25	0.78	175	2.34	5	185	55
Toribio	0	0.00	0	0.0	0	0.0	0	0	0
Paez	60	1.40	127	3.98	187	2.50	10	520	222
Inza	12	0.28	35	1.10	47	0.63	3	18	46
Jambaio	0	0.0	335	10.50	335	4.48	25	0	880
Silvia	0	0.0	300	9.40	300	4.01	4	0	1.200
Totoro	0	0.0	25	0.78	25	0.33	4	0	60
Caldono	10	0.23	90	2.82	100	1.34	4	35	160
Purace	0	0.0	0	0.0	0	0.0	0	0	1.200
Sotara	0	0.0	481	15.08	481	6.43	12	0	0
Subtotal	232	5.40	1.418	44.45	1.650	22.05	67	758	3.823

	ANALISIS DE MUNICIPIOS						NO. DE FAMILIAS INVOLUCRADAS		
<u>Zona y Municipio</u>	<u>Has de Coca</u>	<u>% de Dept.</u>	<u>Has de Amapola</u>	<u>% de Dept.</u>	<u>Total de Has</u>	<u>% de Dept.</u>	<u>Vereda</u>	<u>Coca</u>	<u>Amapola</u>
3. Zona Choco									
Guapi	0	0	0	0	0	0	0	0	0
Timbiqui	0	0	0	0	0	0	0	0	0
Lopez de Micay	0	0	0	0	0	0	0	0	0
SubTotal	0	0	0	0	0	0	0	0	0
4. Zona Meseta de Popayan									
Popayan	0	0	0	0	0	0	0	0	0
Cajibio	0	0	0	0	0	0	0	0	0
Piendamó	0	0	0	0	0	0	0	0	0
Timbio	0	0	0	0	0	0	0	0	0
SubTotal	0	0	0	0	0	0	0	0	0

DETALLE DE CULTIVOS ILICITOS

	ANALISIS DE MUNICIPIOS						NO. DE FAMILIAS INVOLUCRADAS		
<u>Zona y Municipio</u>	<u>Has de Coca</u>	<u>% de Dept.</u>	<u>Has de Amapola</u>	<u>% de Dept.</u>	<u>Total de Has</u>	<u>% de Dept.</u>	<u>Veredas</u>	<u>Coca</u>	<u>Amapola</u>
5. Zona Patia									
Patia	220	5.12	20	0.63	240	3.21	20	491	38
Balboa	299	6.96	200	6.27	499	6.67	44	744	330
Argelia	1.300	30.28	29	0.91	1.329	17.76	17	1.100	46
Florencia	35	0.82	25	0.78	60	0.80	8	48	42
Mercaderes	158	3.68	5	0.16	163	2.18	28	216	8
Tambo	1.100	25.62	400	12.54	1.500	20.05	10	580	350
Bolivar	131	3.05	100	3.13	231	3.09	24	230	440
SubTotal	3.243	75.54	779	24.42	4.022	53.75	151	3.409	1.254

	ANALISIS DE MUNICIPIOS						NO. DE FAMILIAS INVOLUCRADAS		
<u>Zona y Municipio</u>	<u>Has de Coca</u>	<u>% de Dept.</u>	<u>Has de Amapola</u>	<u>% de Dept.</u>	<u>Total de Has</u>	<u>% de Dept.</u>	<u>Veredas</u>	<u>Coca</u>	<u>Amapola</u>
6. Maciso Colombiano									
Almaguer	193	4.50	130	4.08	323	4.32	40	260	295
La Vega	130	3.03	392	12.29	522	6.98	32	280	1.020
San Sebastian	10	0.23	80	2.51	90	1.20	20	45	300
Bolivar	0	0.0	227	7.12	227	3.03	12	0	80
Sucre	43	1.0	0	0.0	43	0.57	12	76	0
La Sierra	12	0.28	24	0.75	36	0.48	11	48	180
Rosas	0	0.0	0	0.0	310	4.14	0	0	0
SubTotal	288	9.04	853	26.74	1.241	16.58	136	709	1.865
7. Zona Pie de Monte Amazona									
Piamonte	0	0.0	0	0.0	0	0.0	0	0	0
Santa Rosa	180	4.19	130	4.08	310	4.14	40	229	630
SubTotal	180	4.19	130	4.08	310	4.14	40	229	630

Exhibit 13

PRIORIDADES DEL DESARROLLO ALTERNATIVO REGIONAL DEL CAUCA

Region	% de Superficie	% de Poblacion	% de Coca	% de Amapola	% de Todo	% de Familias
1. Zona Patia	17.16	12.31	75.54	24.42	53.75	35.7
2. Zona Oriental	20.80	19.41	5.40	44.45	22.05	35.2
3. Maciso Colombiano	6.85	12.09	9.04	26.74	16.58	19.7
4. Norte Caucano	7.95	22.59	5.83	0.31	3.48	2.8
5. Meseta de Popayan	5.16	25.18	0.0	0.0	0.0	0.0
6. Pie de Monte	18.10	1.47	4.19	4.08	4.14	6.6
7. Zona Choco	23.98	6.95	0.0	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0